SYSTEM FOR DETECTING RADIO-FREQUENCY IDENTIFICATION TAGS

ABSTRACT

Techniques for detecting radio-frequency identification (RFID) tags are disclosed. For example, an exit control system is described that detects unauthorized removal of articles from a protected facility. A series of antennas are setup to produce interrogation corridors located near the exit of the protected area. RFID tags are attached to the articles to be protected. Each tag includes information that uniquely identifies the article to which it is affixed and status information as to whether the articles removal from the facility is authorized. The RF reader outputs RF signals through the antennas to create electromagnetic fields within the interrogation corridors. The reader outputs RF power from a single port to the multiple antennas via a splitter/combiner. In this way, a single RF reader with only one transmitter/receiver port simultaneously interrogates multiple antennas. A variety of techniques are described by which the reader can detect the removal of an unauthorized article.